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# United States Patent [19]

Fairchild et al.

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[54] **ACICULAR CALCITE AND ARAGONITE  
CALCIUM CARBONATE**

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[\*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

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[58] **Field of Search** ..... 423/430, 432;  
106/464

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## [57] **ABSTRACT**

The present invention relates to a calcium carbonate composition having both calcite and aragonite crystalline morphology. More particularly, the present invention relates to an acicular calcite and an acicular aragonite product and a method for the production of the same and the use of such as fillers, additives and modifiers of consumer and commercial products such as toothpaste, paper, plastics and sealants. The acicular calcite/aragonite composition of the present invention provides a balance of properties such as sheet bulk, strength, stiffness, and sizing, when employed as a filler for paper. As a coating pigment, the acicular calcite/aragonite product of the present invention provides gloss characteristics suitable for dull and matte grades of low gloss coated paper. Upon further processing such as milling, grinding, or other means of comminution, the resulting product provides gloss characteristics suitable for high gloss coated paper. For paint formulations, the acicular calcite/aragonite composition of the present invention provides properties such as low sheen and high contrast ratio. As an additive in polymers, the acicular calcite/aragonite product of the present invention imparts reinforcing properties, rigidity, and impact strength, including sealant applications.

**4 Claims, No Drawings**